

catalogues. The chapter on astronomical photography is, therefore, of special interest. Here the errors affecting a stellar photograph, its measurements, and the reduction of the measures are fully and carefully explained, and it is shown how, using rectangular co-ordinates, all errors of the first order are corrected by means of six constants.

It should be observed that though terms of the second order may generally be neglected for small areas, with lenses covering large fields of  $5^\circ$  or more—such as are in use for the re-observation of the A.G. Catalogues—this is no longer the case.

Reverting to the meridian circle, the description of the method of determining the collimation error seems rather laboured, and simpler diagrams would have sufficed. The circle of collimation is a purely instrumental condition, and in no way connected with the azimuthal adjustment, so why introduce the azimuth into the argument?

The paragraph on planetary aberration does not appear to be quite correct. It is easily shown that the apparent position of a planet at time  $t$  is the true position at time  $t - \tau$ ,  $\tau$  being the aberration time. The usual practice is to antedate the time of observation by the aberration time, thus correcting both planetary and annual aberrations simultaneously.

The diagram illustrating the photographic refractor in paragraph 158 is not very elegant, though this is unimportant; but in the determination of stellar parallaxes, no mention is made of the method of dependences, the very neat modification of the method of least squares invented by Schlesinger and used by all parallax observers.

These points are mentioned in constructive criticism that they may be considered in a second edition, not in detraction of a very excellent work, on which the author is heartily to be congratulated.

### Short Reviews.

*The Wissahickon Hills: Memories of Leisure Hours out of doors in an Old Countryside.* By Prof. Cornelius Weygandt. Pp. xiv + 366 + 10 plates. (Philadelphia: University of Pennsylvania Press; London: Oxford University Press, 1930.) 17s. net.

I LOOKED up the Wissahickon Hills in my large atlas and did not find them; I discovered Pennsylvania to be an immense State, and that the Alleghany and Blue Mountains tail off in its central parts into a welter of hills and streams. I saw that the author is a professor of English literature, and I thought that this is no book for NATURE. I took the book to bed and I read "The Fox Sparrow". I had never heard of him, but I was charmed with the "big bouncing fellows" with their "high spirits that come from good shelter and full craws,

sunlight and the urge of spring". "In Praise of Wild Cherry" attracted me next, and this was followed by "The Kentucky Warbler". I am still a yokel at heart, and I dreamt of my own hills and my father's farm-yard. "The Famous Darkening Fowl" came next day, and I have never been able to leave this book alone since.

I do not know the country, but the hills, the streams, the birds, all belong to me and I know their ways. "The Old Stock" gives me my people, unaltered and unchanged for centuries. "We have a good deal of local pride. . . . We are rather sure of ourselves. . . . We are workers and few of us are fond of parade and show. . . . We are still stout walkers. We are fond of out-of-doors. We are unafraid of sweat. . . . We own to an interest in natural science more gladly than to an interest in art", which "we are not sure that we ought to admit". "Our Village" might be here, while near by Gilbert White and Richard Jefferies might dwell. They loved to potter and note the little wonders by the way. So does the author, and he is not trying to teach me anything. Emphatically this is a book for NATURE, not, perhaps, to be recommended to professional biologists, but to men who agree with Frost that "The best thing that we're put here for's to see". Emphatically a book likely to become a classic of Pennsylvania and to attain a permanent place in Anglo-Saxon literature.

J. S. G.

*Recent Advances in Analytical Chemistry.* Vol. 1: *Organic Chemistry.* Editor: Dr. C. Ainsworth Mitchell. Contributors: C. L. Hinton, E. J. Parry, D. Jordan Lloyd, H. Chick, D. W. Kent-Jones, G. D. Elsdon, W. Dickson, J. G. King, R. A. Acton-Taylor, H. R. Ambler. Pp. x + 420 + 6 plates. (London: J. and A. Churchill, 1930.) 12s. 6d.

WITH the enormous output of original literature in science, it is practically impossible for the scientific worker to keep in touch with more than a very limited field of inquiry. In this book a successful attempt has been made to collect and arrange in accessible form the latest reliable information on various sections of organic chemistry applied to analysis. As indicated by the editor, the aim has been to give a brief critical summary of the literature up to a decade ago. Although this volume is called "Organic Chemistry", a considerable amount of important information on physical chemistry is included; for example, a very thorough review is given on the applications of the polarimeter in sugar analyses, on purification by electro-dialysis, on condensation of gases, etc. From that period onwards, progress has been dealt with more fully, and concise working details of new methods are given.

Each chapter is prefaced by a short synopsis and ends with a bibliography. Throughout the text exhaustive references are recorded. The work is critical, and indications are given as to the direction on which further advance is likely. Although the book is restricted to some four hundred pages, a great number of subjects of industrial importance have been reviewed. These include sugar, oils and